

REMARKS/ARGUMENTS

The objections raised by the Examiner to the Specification and claims have been addressed by amendments which are self explanatory.

Rejections over art are summarized as follows:

Claims 1, 10-16, 24, 40, 49-52, and 60 stand rejected under 35 U.S.C. 102(b) as being anticipated by Shipley, U.S. Pat. No. 6,119,236.

Claims 33-39 stand rejected under 35 U.S.C. 102(b) as being anticipated by Ramacher, U.S. Pat. No. 5,253,330.

Claims 2 and 41 stand rejected under 35 U.S.C. 103(a) over Shipley in view of Welfeld U.S. Pat. No. 6,167,047.

Claims 3-9, 17, 25-26, 42-48, 53, 61 and 62 stand rejected under 35 U.S.C. 103(a) over Shipley in view of Ades, U.S. Patent Publication No. 20020042274.

Claims 18, 19, 22, 23 and 27-32 stand rejected under 35 U.S.C. 103(a) over Shipley in view of Ramacher.

Claims 54, 55, 58 and 59 stand rejected under 35 U.S.C. 103(a) over Shipley in view of Ades, further in view of Ramacher.

Claims 20 and 21 stand rejected under 35 U.S.C. 103(a) over Shipley in view of Ramacher, further in view of Hubey et al., U.S. Pat. Publ. No. 20030065632.

Claims 56 and 57 stand rejected under 35 U.S.C. 103(a) over Shipley in view of Ades, further in view of Ramacher, further in view of Hubey et al.

Shipley, cited as a primary reference, and Ramacher has been cited as primary reference against claims 33-39.

Shipley discloses software-based intelligent network security nonspecific to any dedicated hardware components. Ramacher is directed to network architecture for emulation of an artificial neural network. Beyond a few words that might have emerged from a keyword search, they have little in common with the present invention and indeed do not even remotely suggest the elements of the invention herein claimed.

By this amendment, claims 33-39 have been canceled without prejudice in order to expedite prosecution. Independent claims 1 and 40 have been amended to clarify the invention. Dependent claims 3, 9, 26, 27 and 61 have also been amended. Claims 1-32 and 40-62 are now pending after amendment. As will be shown hereafter, the claimed invention is patentably distinguishable over the art of record.

The present invention is directed to statistical classification of data in a network effected by inspection of the content through hardware elements operating at wire speed.

Referring to Claim 1, Shipley, Col. 3, lines 45-54 was cited as disclosing a data classifier configured to statistically classify data. Nowhere in that segment is statistical classification mentioned or even implied. The citation merely refers to examination of packets (without reference to which parts) to attempt to recognize patterns.

Shipley, Col. 5, lines 24-32 was cited as disclosing a network interface configured to receive data-carrying packets. However, Shipley merely teaches a component positioned to monitor Ethernet packets traveling bi-directionally through a firewall of a LAN. It is non-specific as to whether it actually receives data-carrying packets.

Shipley, Col. 5, line 58 to col. 6, line 2, and Fig. 2, elements 34 and 36 were cited as disclosing a feature extraction hardware block ... configured to extract at least one feature from the received data. However, Shipley merely teaches a *software* element having the operation of look-for-known-code and look-for-known-data, functions that purportedly involve examination and analysis in "essentially real time." No mention whatever is made of feature extraction or of the relevance of a hardware component to effect wire-speed feature extraction. More specifically, no mention is made whatsoever of classification of data into data classes. Therefore, to emphasize this difference, claim 1 has been amended to recite that this hardware component is configured to extract a plurality of (differing) features.

Shipley, Col. 7, lines 1-50 was cited as disclosing a statistical classifier ... to statistically classify the data in accordance with at least one extracted feature. Instead, Shipley teaches a software function of its inventive method to the "assign weight to breach" operation, which is a technique for assigning a weight to rate the sophistication of a security breach attempt.. This anecdotal examples suggest nothing of categorization or classification beyond a

one-dimensional threat level. There is no mention whatsoever of a statistics-based function. The Applicants submit that this fails to anticipate, teach or suggest the classification among features. To make these distinctions clear, Claim 1 has been amended to emphasize multiple feature extraction.

Shipley, Col. 7, lines 51-56 was cited as disclosing a policy engine coupled to the feature extraction [sic] and configured to statistically classify the data. However, Shipley makes no mention of a policy engine operative to define rules for data classes based on either feature extraction or statistical classification. To make these distinctions clear, Claim 1 has been amended to emphasize multiple-rule-defining functionality.

Thus, at least five significant differences with Shipley are now clearly articulated. It is therefore respectfully submitted that Claim 1 and all claims dependent thereon clearly define patentable subject matter.

As to claim 10, Shipley, Col. 8, lines 30-41 was cited as anticipating programmability of the feature extractor. In fact, Shipley discloses programming a branching function of a decision maker without any reference to feature extraction. This feature of Claim 10 is not anticipated.

As to claim 11, Shipley, Col. 4, lines 30-56 and Col. 7, lines 24-27 were cited as disclosing programmability of a statistical classifier. However, Shipley merely discloses machine readable storage devices containing code with standard computer hardware to execute code. There is no mention of a statistical classifier or its functionality. This feature of Claim 11 is not anticipated.

In view of the foregoing, the Applicants contend that the Shipley reference is not an anticipating reference, nor does it render any claim obvious over the state of the art.

Reference is now made to method claims 40-62. The Applicants reiterate the contentions previously made. The foregoing exercise need not be continued since the inapplicability of the Shipley reference has herein above been shown to be inapplicable. However, in order to further distinguish the Shipley reference and emphasize inventive features, minor clarifying amendments have been made to claim 40. Claims 40-62 are therefore likewise allowable.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (650) 326-2400.

Respectfully submitted,



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